IBM

Virtual InterActive propels Los Angeles County to the head of the class.

Application	Online statewide assessment tool for grades K-12
Business Benefits	Streamlined testing for 1.3 million students; ability to handle up to 500,000 transactions per minute; improved evaluation, review and analysis of student performance; better communication among parents, teachers and administrators; potential for national rollout
Software	IBM WebSphere ™ Application Server, Advanced Edition IBM WebSphere Studio IBM WebSphere Performance Pack IBM DB2 ® Universal Database™ for AIX ® IBM Net.Data ®
Hardware	IBM RS/6000 ®
Business Partner	Virtual InterActive, Inc.

Concern about the quality of our nation's public schools has led many states to adopt new academic standards to improve student achievement. In Los Angeles, IBM WebSphere Application Server, Advanced Edition and IBM DB2 Universal Database are powering a model application that has the potential to spur education reform across the state of California by changing the way student assessments are conducted and reviewed.

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– Paul Rodriguez, Manager of Business Development, Virtual InterActive, Inc.
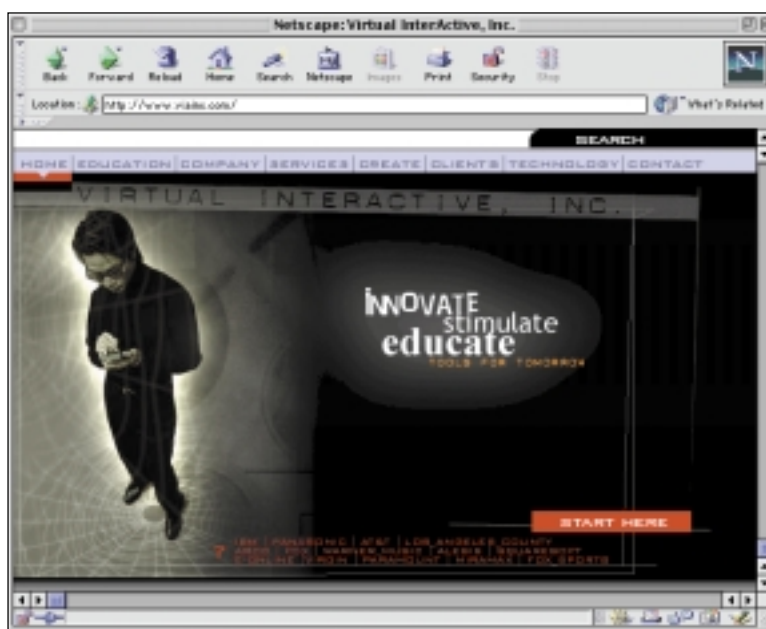
Hollywood-based Virtual InterActive is a full-service Internet solutions company serving clients in consumer products, entertainment, banking, retail, education and services.

e-business

It's about business, not just technology.

LACOE's National Center to Improve the Tools of Educators (NCITE·LA) relies on WebSphere Application Server to administer its online testing program.

The Los Angeles County Office of Education (LACOE) recently launched the first phase of a pioneering Web application that conducts the California state math and reading assessments online. Later this year, 1.3 million K-12 students at all 1,500 schools in Los Angeles County will be logging on to take the standards-based tests.

To develop the application, LACOE turned to Virtual InterActive, Inc. (VIA), a Hollywood-based interactive Web application developer. An IBM Business Partner and participant in the IBM PartnerWorld for Developers, VIA distinguishes itself with technical savvy and cutting-edge visuals that add flair to its customers' applications. With a core staff of seven, VIA has created industrial-strength Web sites worthy of any honor roll. Democracynet.com, for instance, allowed citizens to determine where more than 1,500 candidates stood on thousands of issues. VIA's client roster also includes names such as Fox Networks and E-online, as well as other big and up-and-coming players in the music, banking, gaming, consumer products and services industries.

Helping teachers help their students

"This application is a first," notes VIA president Joyce Yap. "Until now, there hasn't been a tool for assessing students at such a comprehensive level. The ability to easily evaluate progress and performance over time is also generating excitement."

Why the push? According to VIA business development manager Paul Rodriguez, many Los Angeles County students are among the thousands of students in California who have disappointing test scores on the annual Stanford Achievement Test. "Teachers and students need help," says Rodriguez. "The whole purpose of this system is to help teachers help students improve their academic achievement."

In Los Angeles County, students will be able to take the tests using any computer with a Web browser. The application scores tests, returns results to students and teachers and compiles statistics for schools, school districts and the county offices of education. Color-coded reports to teachers and administrators show overall scores for students and classes. They also pinpoint specific strengths and problem areas — for instance, trouble in understanding whole numbers in math. A red flag highlights any result that is less than 50 percent.

Users view reports based on security levels. At the state level, authorized personnel can review and compare the performance of all districts and schools. Similarly, district administrators can review statistics for schools in their district, and teachers can see reports for their own classes as well as for individual students. Students can only see their own tests. "With the accumulation of data over time, the system provides accountability for everyone involved: students, teachers, administrators and parents," says Rodriguez.

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"The system goes beyond diagnostics," says Rodriguez. "It links to many Web-based resources, such as embedded and streaming video, online coaching and professional training programs. The application will also invite and enable participation by parents, who will be able to review their child's performance and communicate with teachers by e-mail. "Obviously, the potential impact is enormous, and we're proud to be part of it," Rodriguez adds.

VIA does its homework — and selects IBM

Since its inception in 1996, VIA had used Oracle and Sybase Illustra for various client applications. One of its last Illustra applications was a project commissioned for an exposition at the Long Beach Museum of Art. It was an image search engine that used attributes such as color, texture, composition and structure to find archived images.

Several scientists from IBM's Almaden labs were at the exhibit. "The IBM scientists who visited our booth were the only ones who understood the power of the application," says Yap. "We were interested in building business relationships, and were very impressed with the attentiveness and expertise of the IBM technical team. "We also are impressed with the Application Framework for e-business, embracing its open-platform standards and strategies for transforming traditional business models with e-business solutions."

IBM's interest in VIA's work sparked a collaboration that led VIA to port the museum application to DB2, using technologies that later became the DB2 Image and Video Extenders.

"We favored the IBM DB2 database for its advantages in price, performance and scalability," says Yap. "Standardizing on DB2 Universal Database also gives us the flexibility to tie in other applications as needed to create the best possible solutions for our clients. And the fact that WebSphere Application Server fully integrates with DB2 Universal Database helps streamline development."

"We've made DB2 part of our business model, and now recommend it and other IBM products to clients," Rodriguez adds. "There's really no comparison between Oracle and DB2 in the price/performance ratio. Helping our customers keep their costs down is always an advantage, as are product quality and support—and IBM delivers on all of those fronts."

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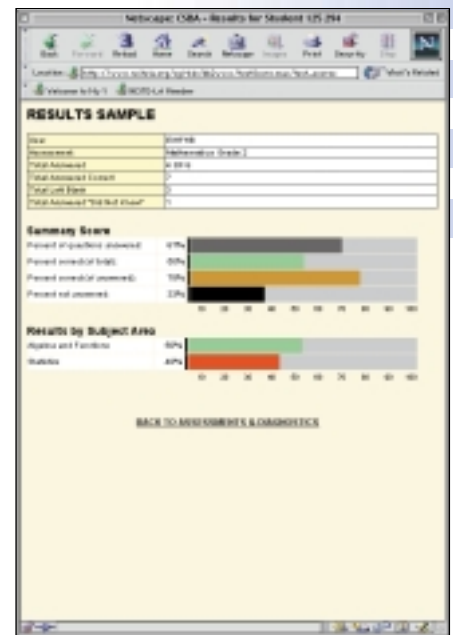
Teachers and parents in Los Angeles County can assess student test performance online, enabling them to quickly pinpoint areas of strength and weakness.

IBM software makes the grade

Phase I of the LACOE project serves more than 100,000 students, using IBM Net.Data to retrieve dynamic test and scoring data stored in DB2 Universal Database for AIX. But ultimately, the testing system will need to support all 1.3 million students, and LACOE has requested additional application extensions for teachers, parents and county administrators. To support these needs, VIA looked to WebSphere Application Server as a more efficient development platform and as a runtime environment for high performance Java™ servlet processing.

"We wanted a three-tiered solution, and WebSphere Application Server is just that," says Rodriguez. Separating the database from the business logic simplifies development, allowing VIA to deliver application enhancements more quickly.

Support for Enterprise JavaBeans™ (EJBs) in WebSphere Application Server, Advanced Edition also streamlines development by enabling efficient distribution of reusable application functions. This modularity will be indispensable when the testing tool is tweaked for the different systems and applications used throughout the Los Angeles County school systems, and eventually, the state. Similarly, the open-systems advantage of Java will allow the application to run on whatever platform students and teachers are using.

With WebSphere Application Server in place, VIA expects the LACOE testing site will be able to handle 500,000 transactions per minute.

Graduating to the next performance level

Plans for future enhancements call for the expansion of standards testing in science and history. Core curriculum may be added to expand resources available to teachers and students. Eventually, the database aggregating all this information will grow to more than 100 gigabytes.

Fueled by the potential for building applications with WebSphere, VIA has already bid on two other projects worth millions of dollars. And other software developers have acknowledged VIA's expertise by asking the company to handle their Web integration challenges. By any assessment method, VIA is obviously performing well above standards.

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For more information about Virtual InterActive, Inc., visit: *www.viainc.com*

For more information about LACOE's assessment programs, visit: *www.ncitela.org*

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